



Fetal response to maternal hunger - Sonographic evidence in development of food seeking behaviour

Singh C, Ruparel M

Sonovu Diagnostic centre, Mumbai, India

Objective

The purpose of this study was firstly to demonstrate that food seeking behaviour develops at approximately 11-13 weeks of gestation and secondly, that maternal hunger directly affects fetal activity.

Methods

A sample size of 25 patients in the second trimester with single live intrauterine gestations were screened during the routine scan. Data collected included: Demographic data, last menstrual period, gestational age by scan. Hours since the last meal was noted. Mothers who came immediately post meal were included in the control group. Evaluation criteria included: Average fetal kicks over 3 minutes on ultrasonography, fetal heart rate, cerebro-placental ratio (CPR).

Results

The study is in progress, 10 subjects have been already evaluated (as of 10-4-2018), From the data acquired it was concluded that - 1) There is a significant increase in the mean number of fetal movement if the last maternal substantial meal is more than 6 hours on average, with mean number of kicks being more than 20 over 3 minutes. This compares with 7-8 kicks in well fed mothers. 2) There was no significant variation seen in fetal heart rate. 3) There were no differences between the two groups in CPR.

Conclusion

It can be concluded that increased fetal activity due to maternal hunger can be interpreted as demand for food and metabolites, prompting mothers to eat. This theory is the background and can reduce risk of intra-uterine growth retardation (IUGR) in mothers by ensuring regular short-interval meals which provide adequate metabolic substrates to the fetus and hence enable balanced fetal development and activity. Further research would need to be carried out, focusing on prevention of IUGR as an outcome measure in preference to CPR.